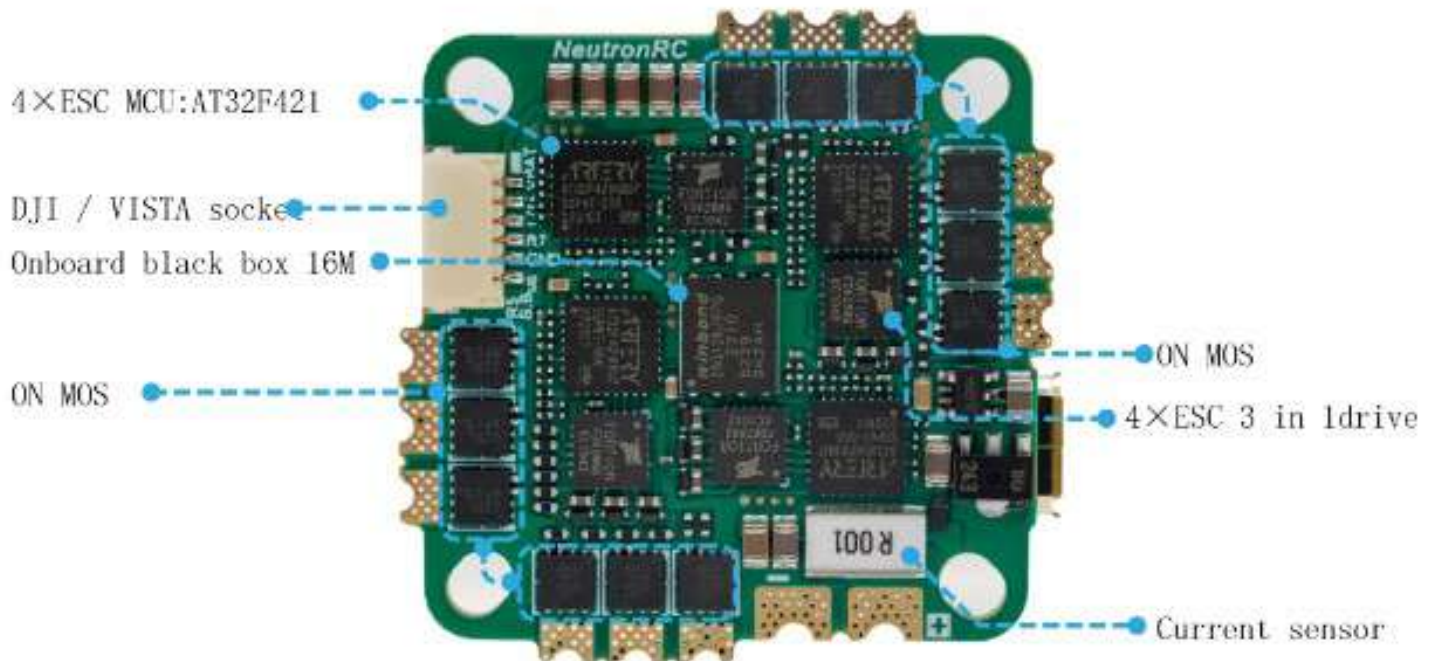
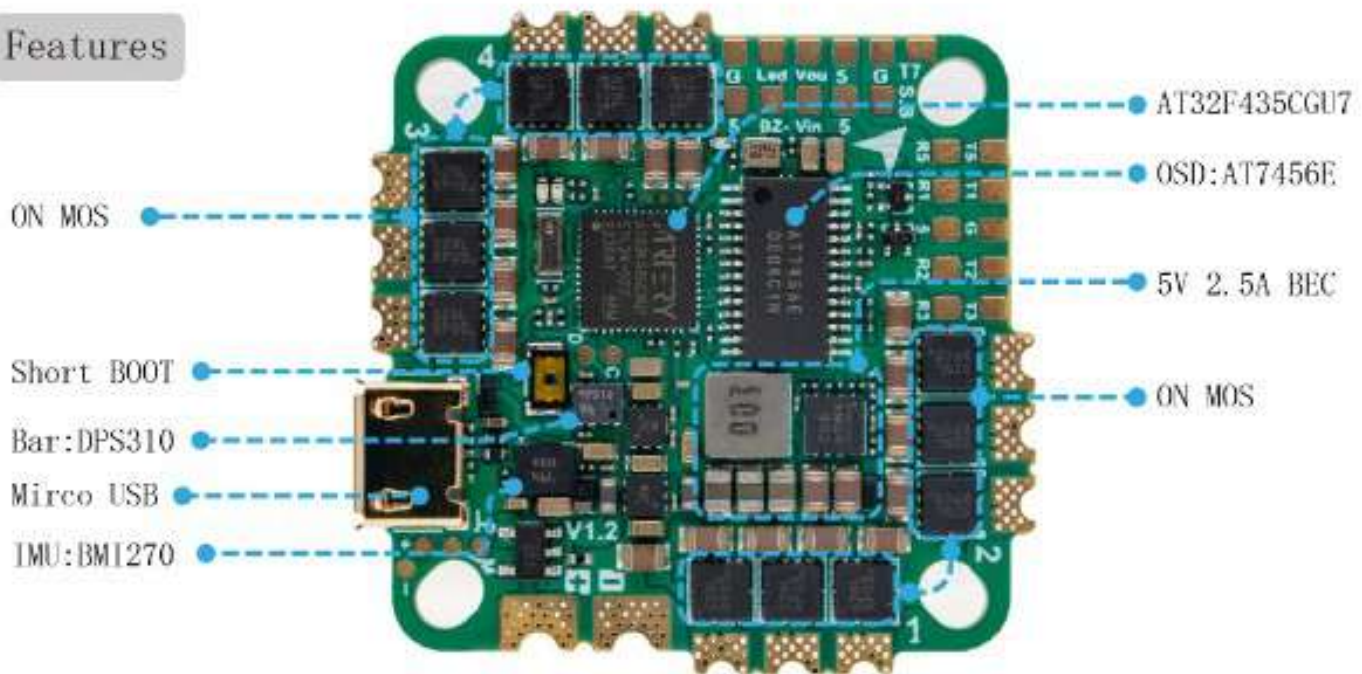


## Features



1. MCU: AT32F435CGU7 ,@288M Hz, 1MB Flash
2. IMU: BMI270 (SPI1) CW=0, YAW = -45
3. OSD: AT7456E (SPI2)
4. Blackbox: SPI=2 Flash 16M
5. Baro: Infineon DPS310(I2C1)
6. 5xVarts(1, 2, 3, 5, 7)&1x I2C
7. BEC: 5V 2.0A(Max 2.5A)
8. Support Betaflight (NEUTRONRCF435MINT)
9. Current sensor (Scale 100)&Voltage sensor (Scale 110)
10. 3x LEDs for FC Status & 3.3V and 5V
11. ESCMCU: AT32F421 120MHz (AM32/HF32 Firmware)
12. FD6288 3in1 driver
13. SH1.0-6pin, DJI/Vista straight plug
14. ONsemi Industrial MOS, low internal resistance and high current
15. Current 45A x4 ,Max 60A(5S)
16. ESC Firmware: AM32(AM32 AT32DEV F421)
17. 8-layer 20Z, 2-order blind via PCB.

## Target:

- ATbeatflight Firmware: [NEUTRONRCF435MINI](#)
- INAV Firmware: [NEUTRONRCF435MINI](#)
- QUICKSILVER Firmware: [NEUTRONRCF435MINI](#)



## Default UART Configuration

UART 1: NC  
UART 2: NC  
UART 3: NC  
UART 6: S. BUS (DJI /VISTA/03)  
UART 7: DJI/VISTA

## Mechanical and Electrical Specs

- Input Voltage: 3-5S (35A/55A), 3-6S (45A)
- Mounting: 25.5x25.5mm w/M3 Grommets
- Size: 34x34x7mm
- Weight: 8g

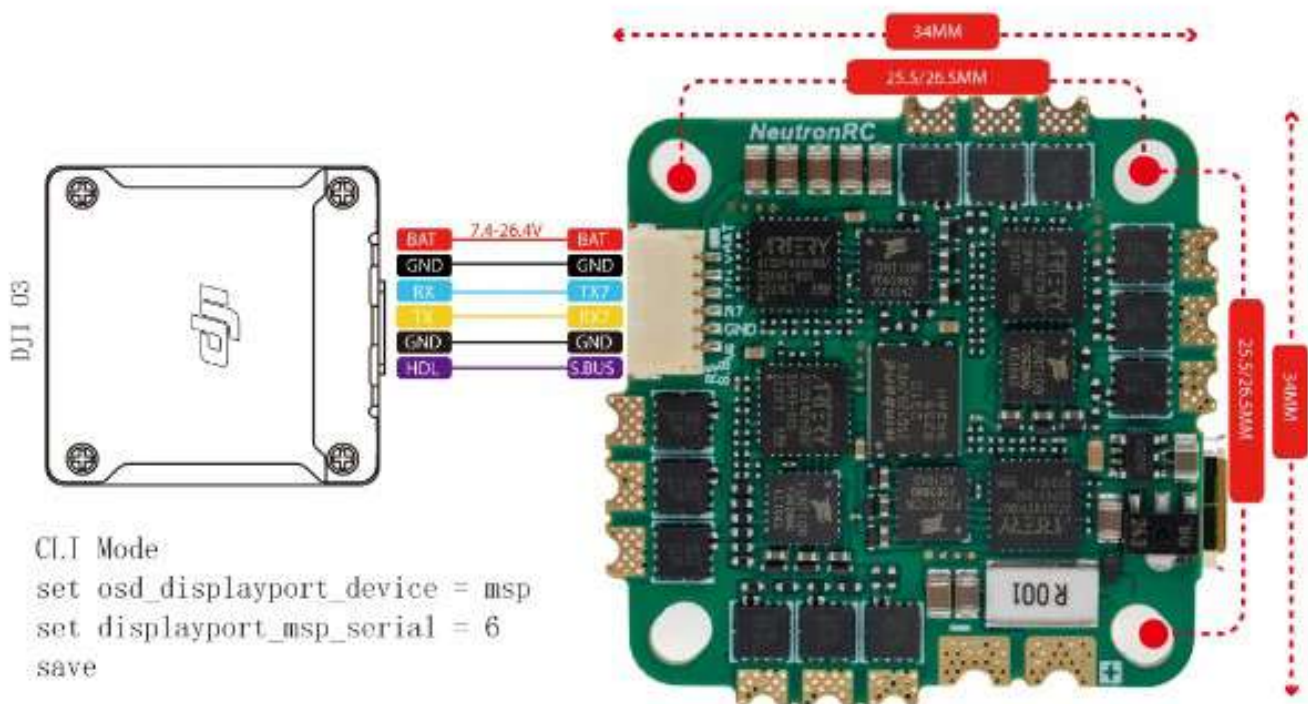
## Default port

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO
UART1	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO
UART2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO
UART3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO
UART5	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO
UART7	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled AUTO	Disabled AUTO	Disabled AUTO

## Read black box data

Select the black box option **activate mass storage device mode**

## DJI digital image transmission system



CLI Mode

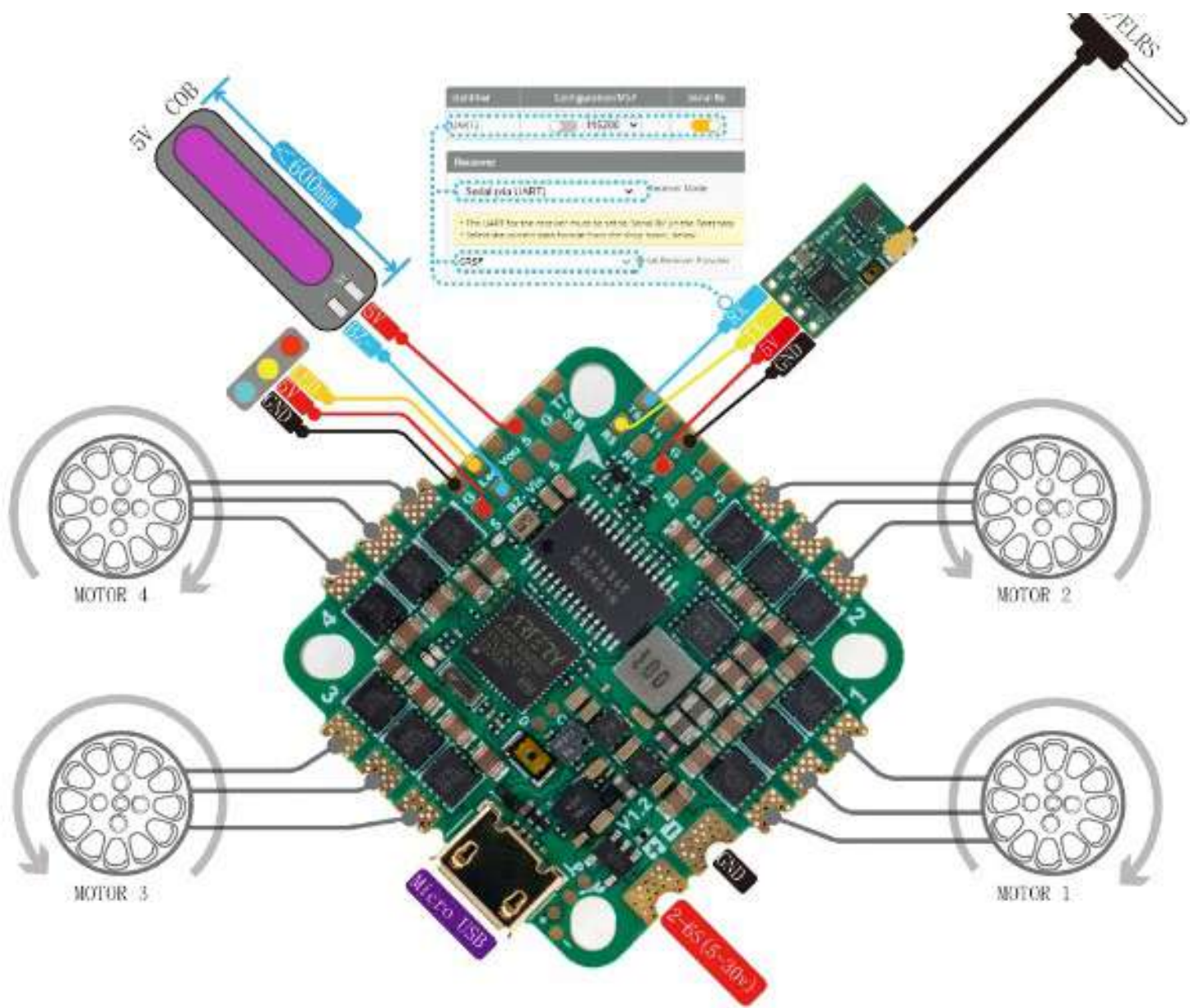
```
set osd_displayport_device = msp
set displayport_msp_serial = 6
save
```

Under the combination of high-definition image transmission, complete the configuration of LED strip light by modifying the CLI

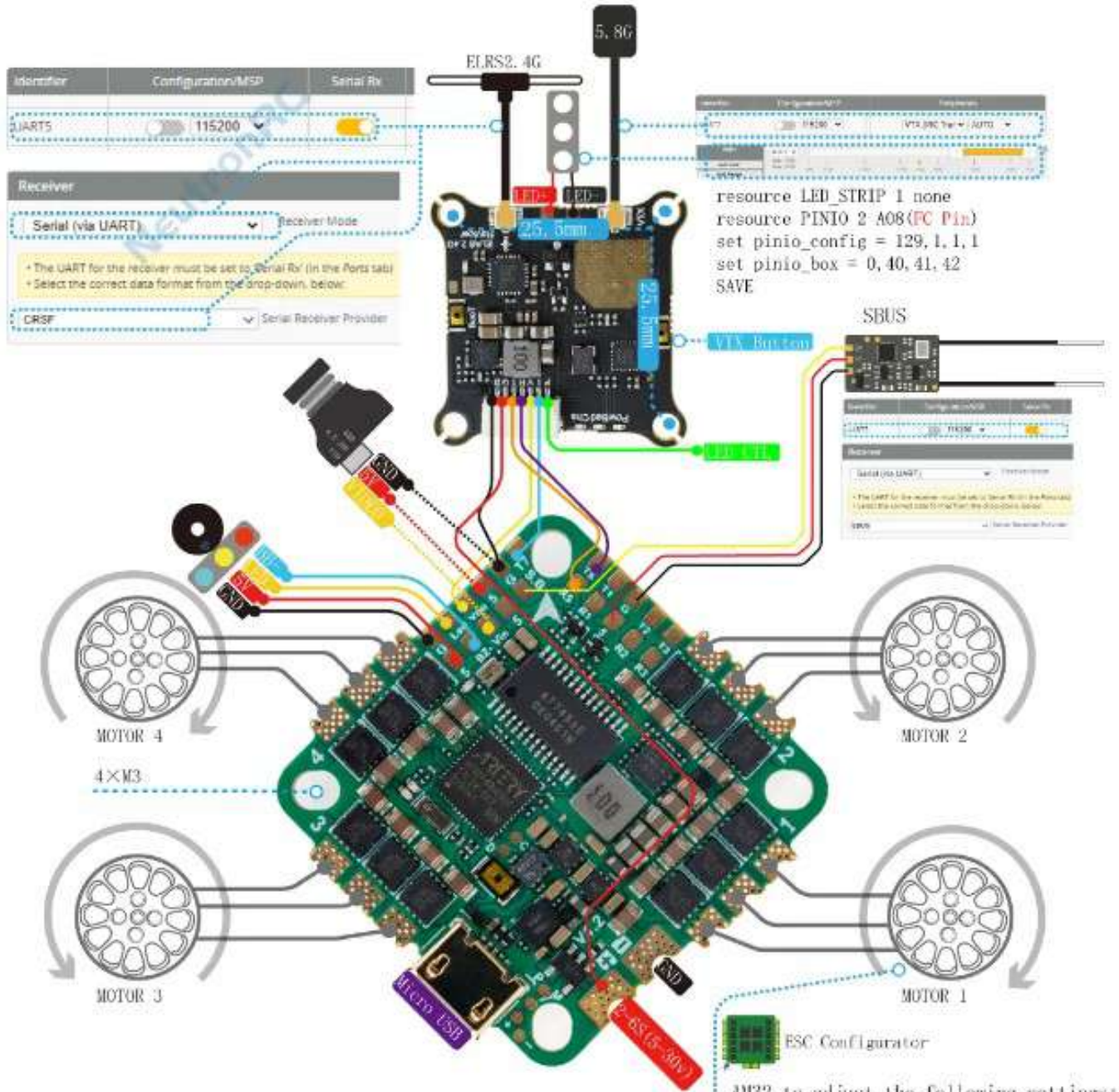
(length does not exceed 600mm)

```
resource BEEPER 1 none
resource PINIO 2 C15
set pinio_config = 129,1,1,1
set pinio_box = 0,40,41,42
SAVE
```





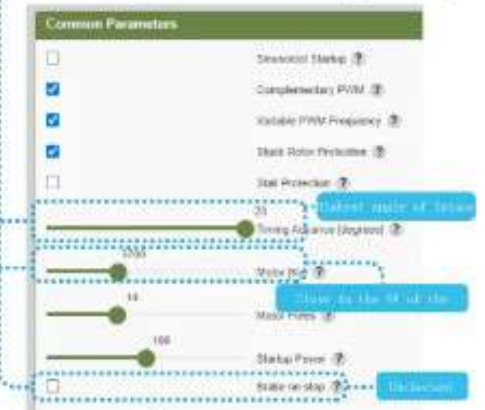
# Default wiring diagram



ESC parameter setting steps:



AM32 to adjust the following settings:



## Current version identification



3-5S  
35A



3-6S  
45A



3-5S  
55A

### NOTE:

If you have updated firmware, please refer to the following options for initial settings to ensure normal work

#### Board and Sensor Alignment

Roll Degrees: 0    Pitch Degrees: 0    Yaw Degrees: -45

First: GYRO/ACCEL    First GYRO: CW 0°

MAG Alignment: Default

#### Voltage Meter

**Warning:** Values limited to 25.5V.

Battery: 0.3 V

Scale: 110

Divider Value: 10

Multiplier Value: 1

#### Amperage Meter

**Warning:** Values limited to 63.5A.

Battery: 0.00 A

Scale [1/10th mV/A]: 100

Offset [mA]: 0

**Blackbox configuration**

Onboard Flash	▼	Blackbox logging device
1/1 (3200Hz)	▼	Blackbox logging rate
GYRO_SCALED	▼	Blackbox debug mode

**Save and reboot**



NeutronRC



ATbetaflight

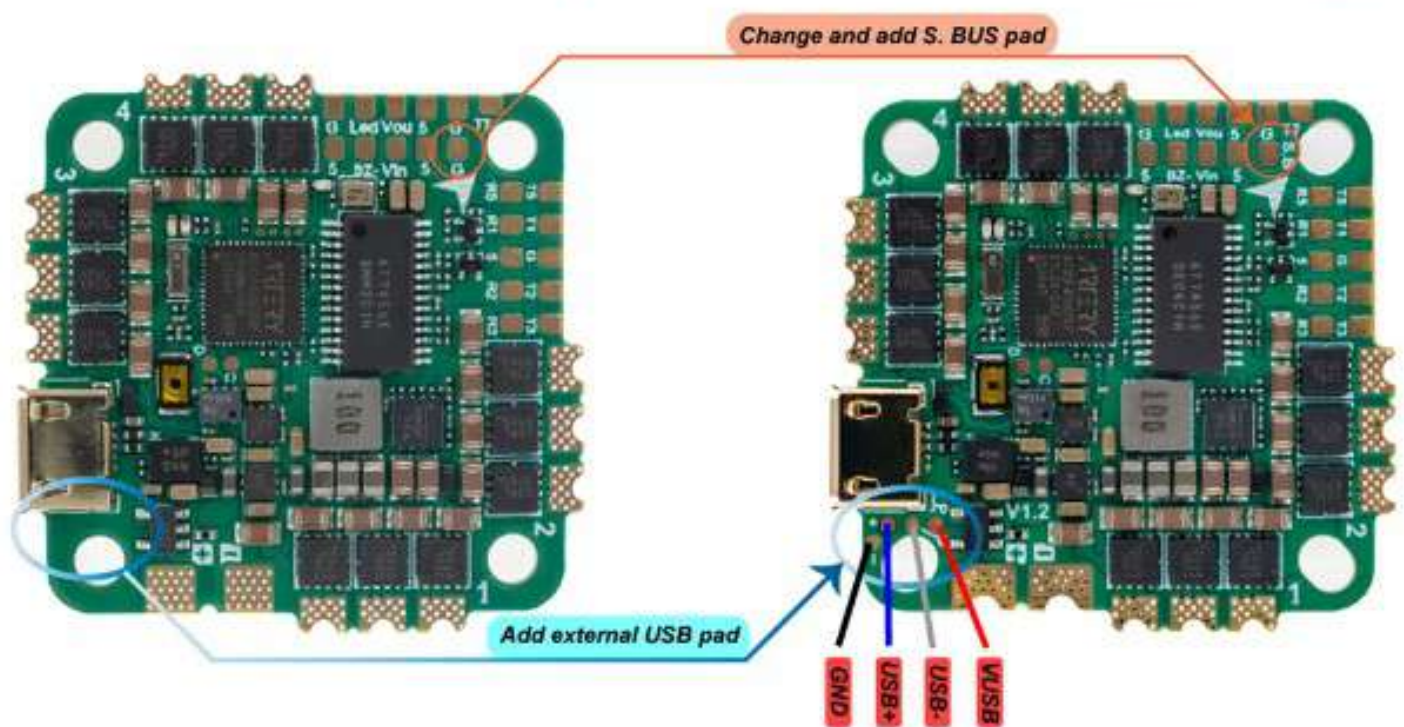


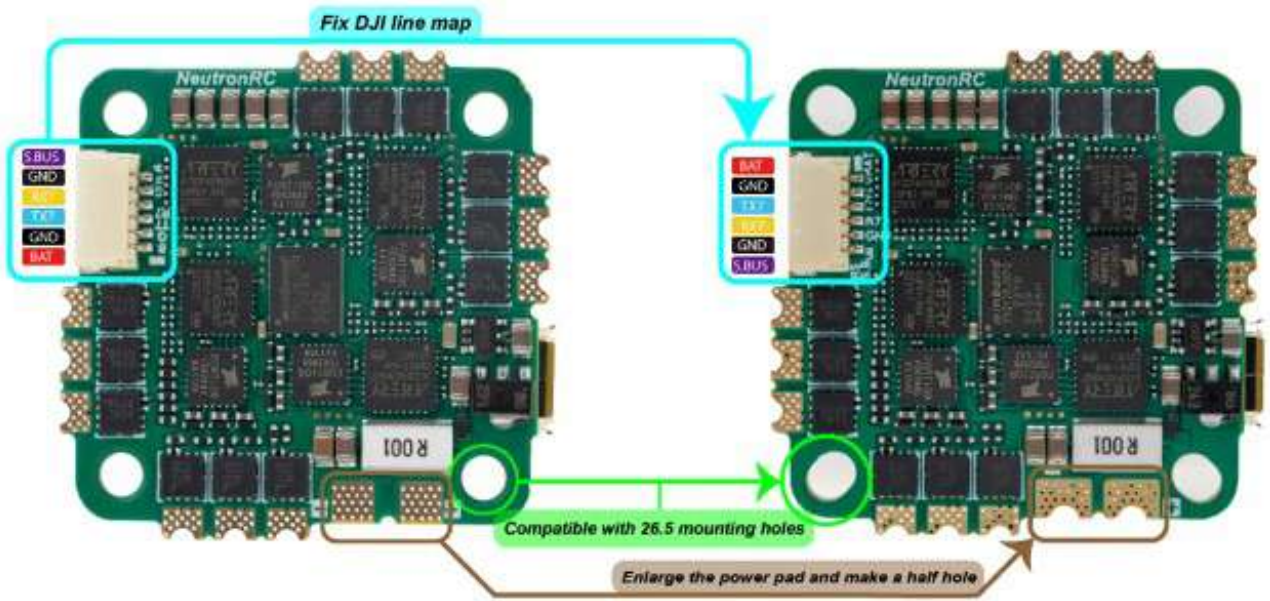
AM32

Differences between V1.0 and V1.2

## AT32F435 AIO V1.0

## AT32F435 AIO V1.2



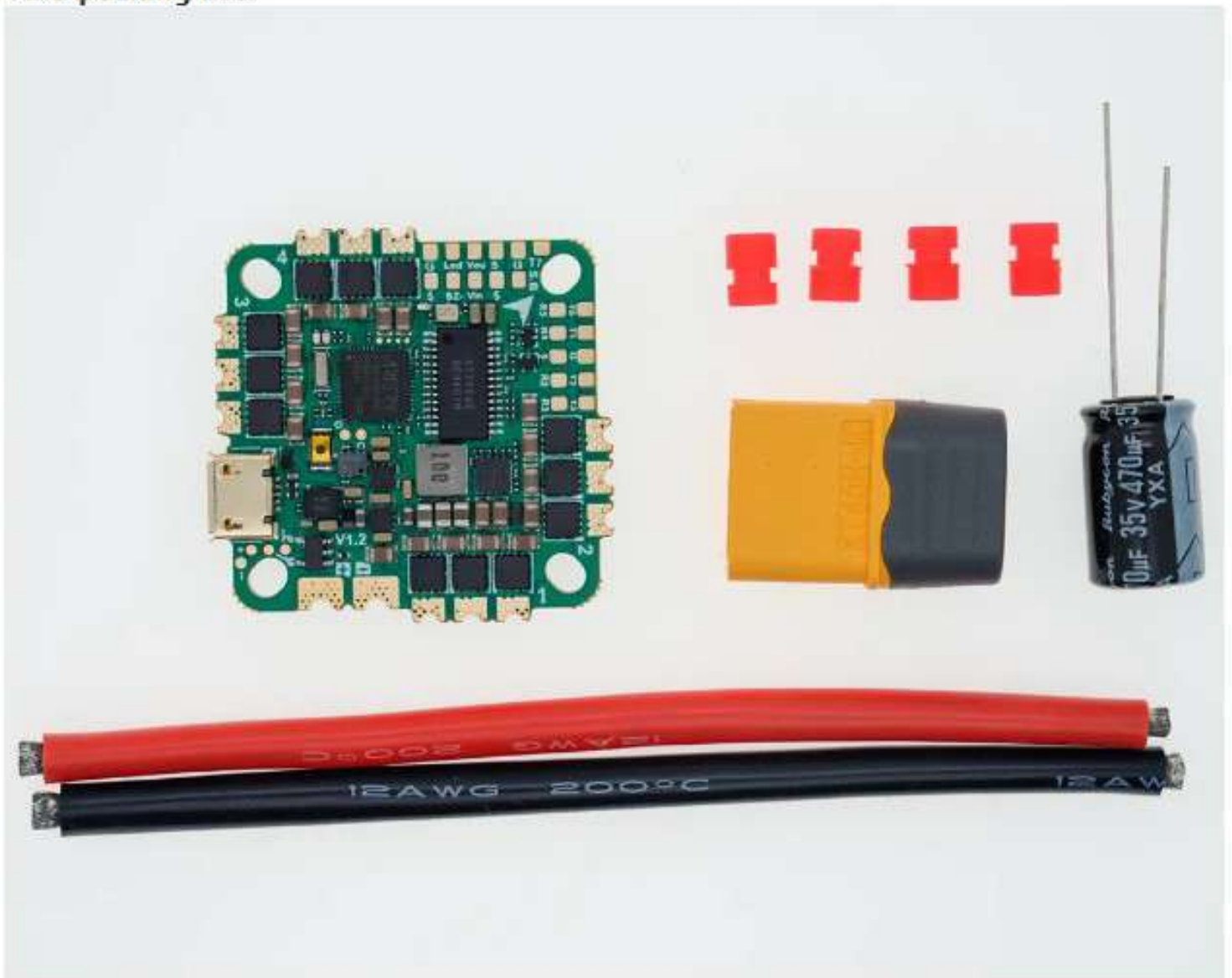


V1.2 Connect with DJI O3/VISTA

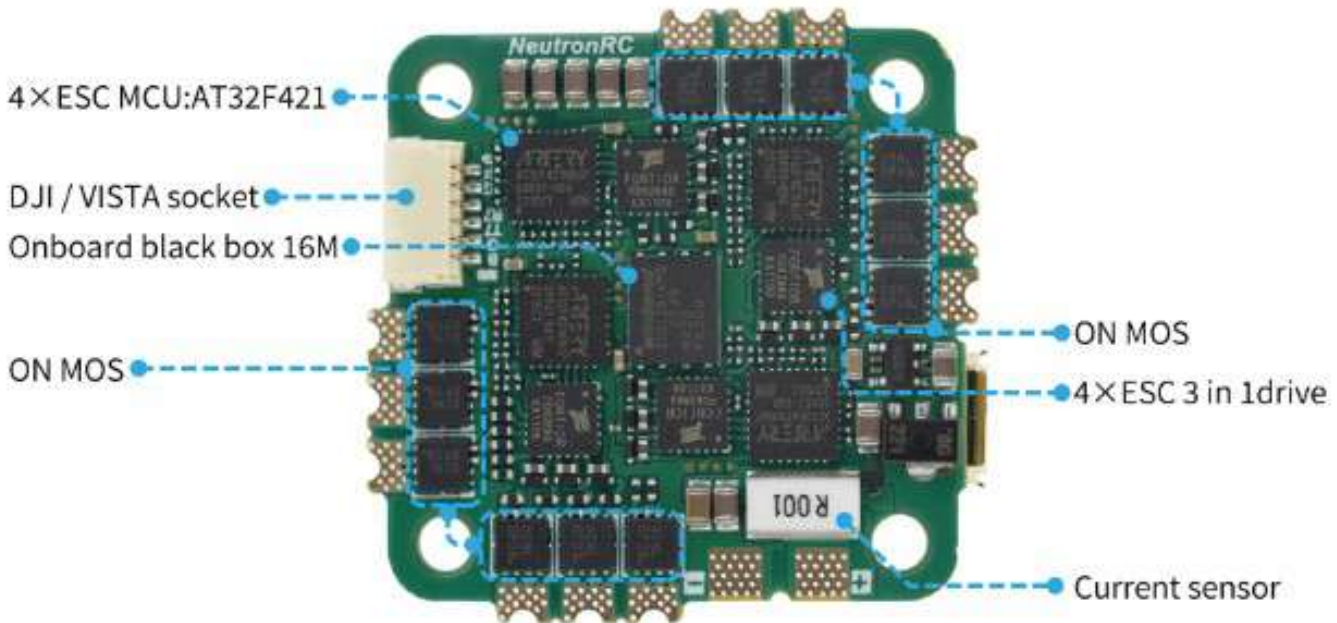
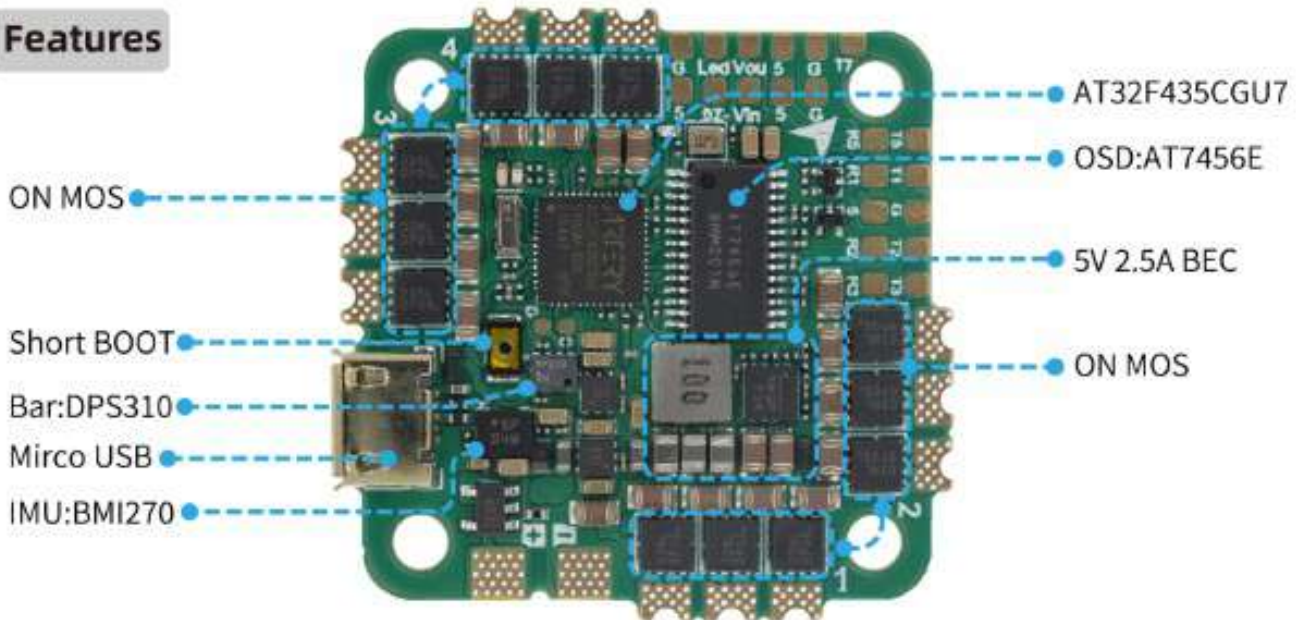




V1.2 packing list:



## Features



1. **MCU: AT32F435CGU7 ,@288M Hz,1MB Flash**
2. IMU: BMI270 (SPI1) CW=0,YAW = -45
3. OSD: AT7456E (SPI2)
4. Blackbox: SPI=2 Flash 16M
5. Baro: Infineon DPS310(I2C1)
6. 5xUarts(1,2,3,5,7)&1x I2C
7. BEC: 5V 2.0A(Max 2.5A)
8. Support Betaflight(NEUTRONRCF435MINI)
9. Current sensor (Scale 100)&Voltage sensor (Scale 110)
10. 3x LEDs for FC Status & 3.3V and 5V
11. **ESCMCU: AT32F421 120MHz (AM32 Firmware)**
12. FD6288 3in1 driver
13. SH1.0-6pin,DJI/Vista straight plug
14. ONsemi Industrial MOS, low internal resistance and high current
15. Current 45Ax4 ,Max 60A(5S)
16. ESC Firmware: AM32(AM32\_AT32DEV\_F421)
17. 8-layer 20Z, 2-order blind via PCB.

## Target

- ATbeatflight Firmware: **NEUTRONRCF435MINI**



## Default UART Configuration

UART 1: NC  
UART 2: NC  
UART 3: NC  
UART 5: S.BUS(DJI /MISTA/O3)  
UART 7: DJI/MISTA

## Mechanical and Electrical Specs

- **Input Voltage:** 2-6S (5-30V)
- **Mounting:** 25.5x25.5mm w/M3 Grommets
- **Size:** 34x34x7mm
- **Weight:** 8g

## Default port

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	<input checked="" type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART1	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART2	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART3	<input type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART5	<input type="checkbox"/> 115200 ▾	<input checked="" type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾
UART7	<input checked="" type="checkbox"/> 115200 ▾	<input type="checkbox"/>	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾	Disabled ▾ AUTO ▾

## Read black box data

Select the black box option to **activate mass storage device mode**

**Blackbox** NEW

**Blackbox configuration**

Onboard Flash ▾ Blackbox logging device  
1M (3200Hz) ▾ Blackbox logging rate  
GYRO\_SCALED ▾ Blackbox dataflash mode

**Save and reboot**

**Outboard serial logging device**

You can log to an external logging device (such as an Olymper) by using a serial port. Configure the port on the Ports tab.

**Onboard dataflash chip**

Flight logs can be recorded to your flight controller's onboard dataflash chip.

Flash data 15.0MB

**Save flash** **Save flash to file (not supported)**

Directly saving flash to file is slow and inherently prone to error / file corruption.  
In some cases it will work for small files, but this is not supported and support requests for it will be closed without comment - see Mass Storage mode instead.

**Mass Storage Mode**

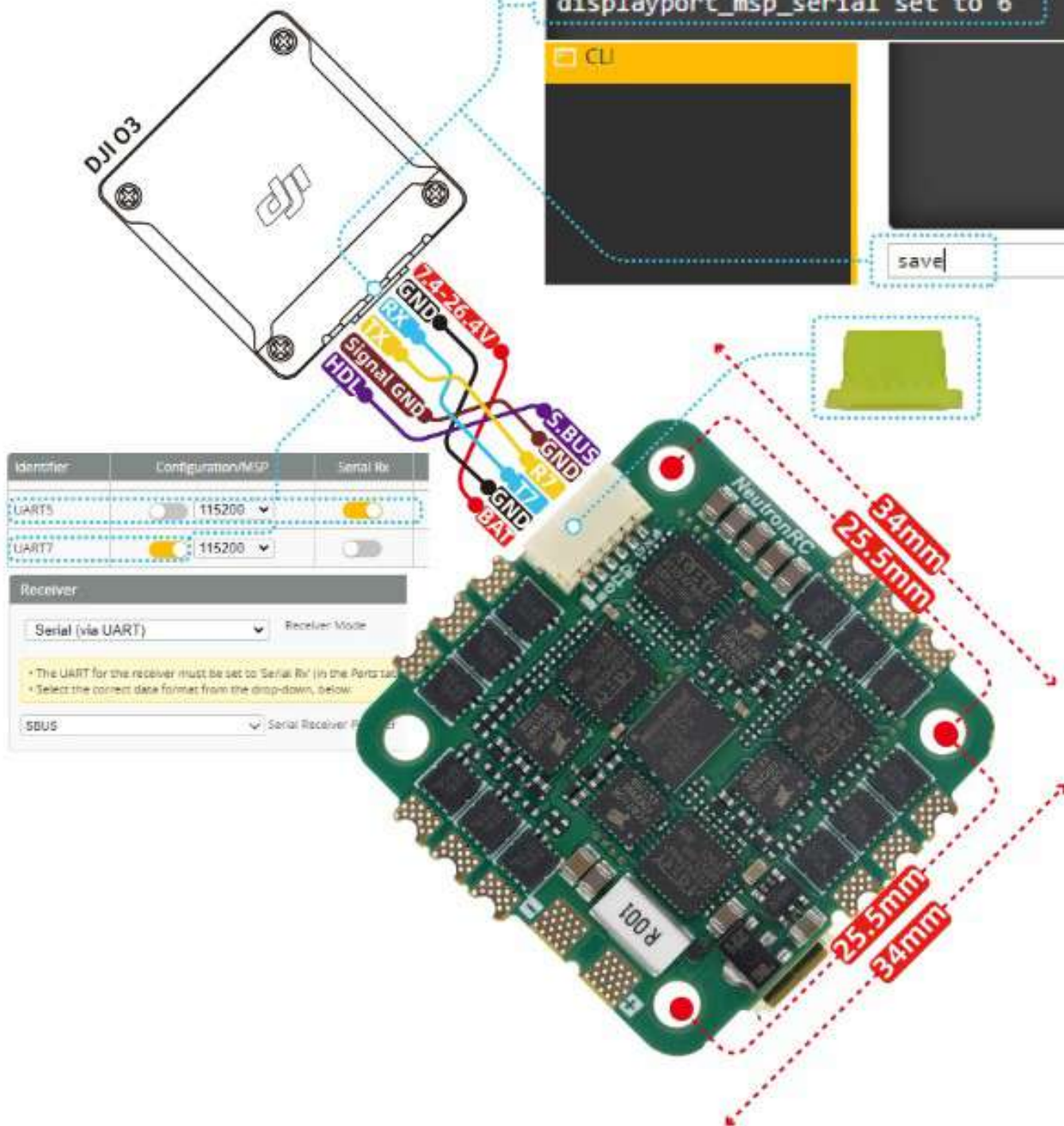
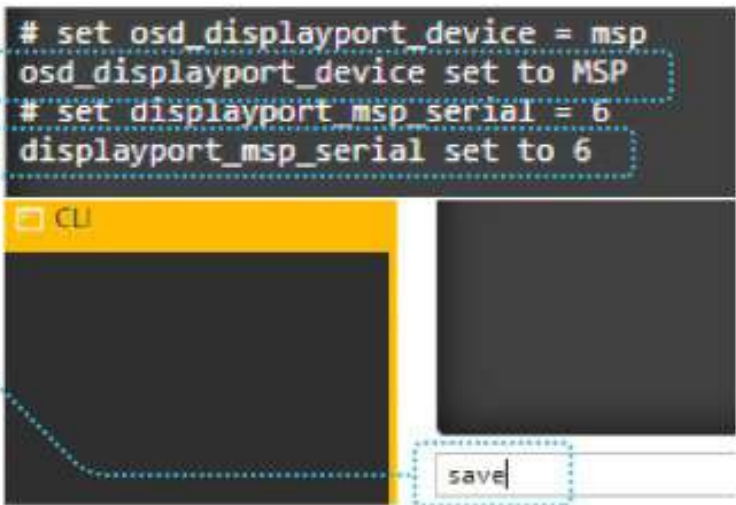
**Activate Mass Storage Device Mode** **2**

Reboot into **mass storage device (MSD)** mode. Once activated, the onboard flash or SD card on your flight controller will be recognized as a storage device by your computer, and allow you to download your log files. Eject and power cycle your flight controller to leave mass storage device mode.

# DJI digital image transmission system

## Entering CLI Mode

```
set osd_displayport_device = msp  
set displayport_msp_serial = 6  
save
```




Identifier	Configuration/MSP	Serial No.
UART5	<input type="checkbox"/> 115200	<input type="checkbox"/>
UART7	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>

Receiver

Serial (via UART) Receiver Mode

• The UART for the receiver must be set to 'Serial Rx' (in the Ports tab)  
• Select the correct data format from the drop-down, below:

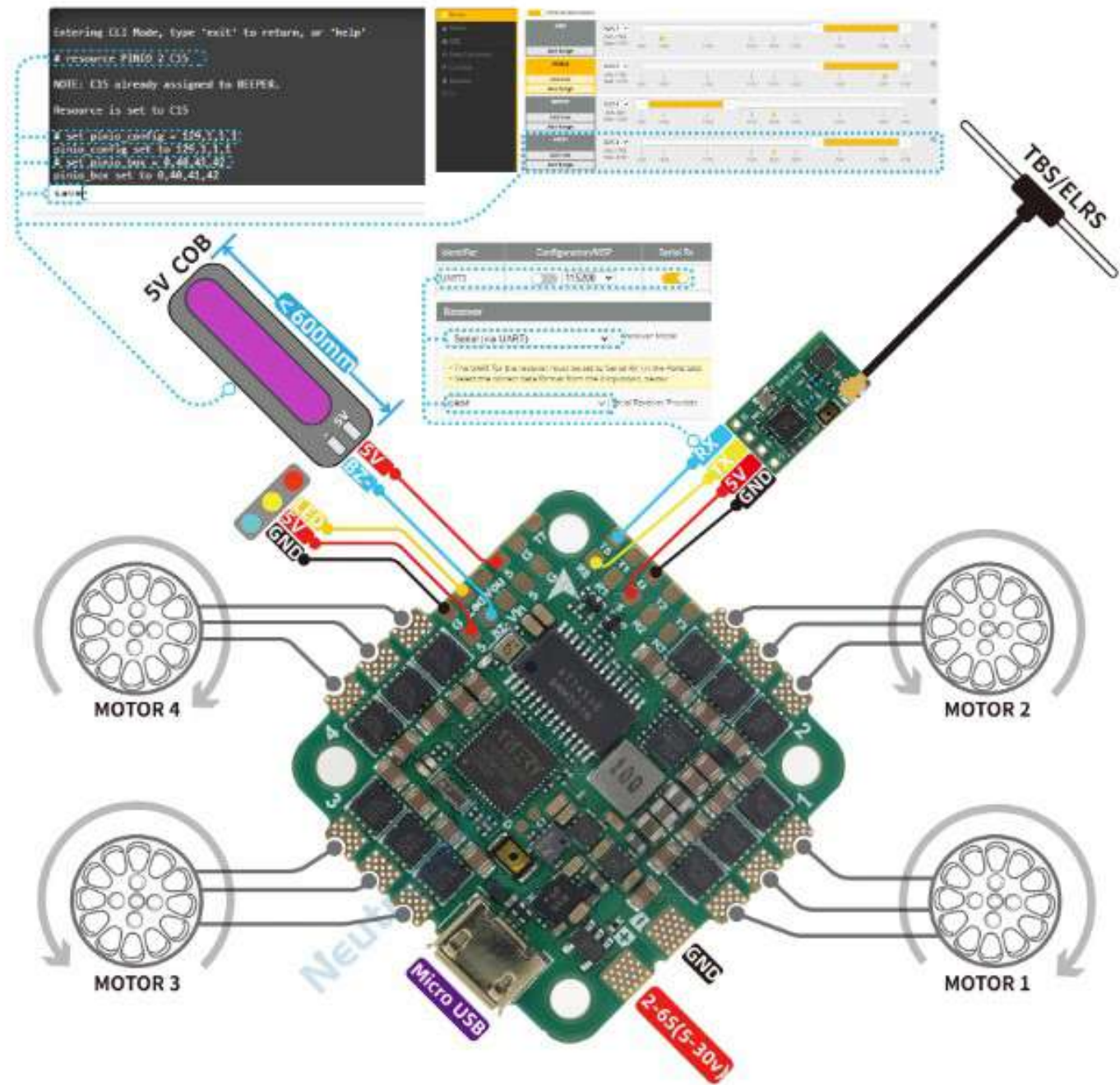
SBUS Serial Receiver Mode

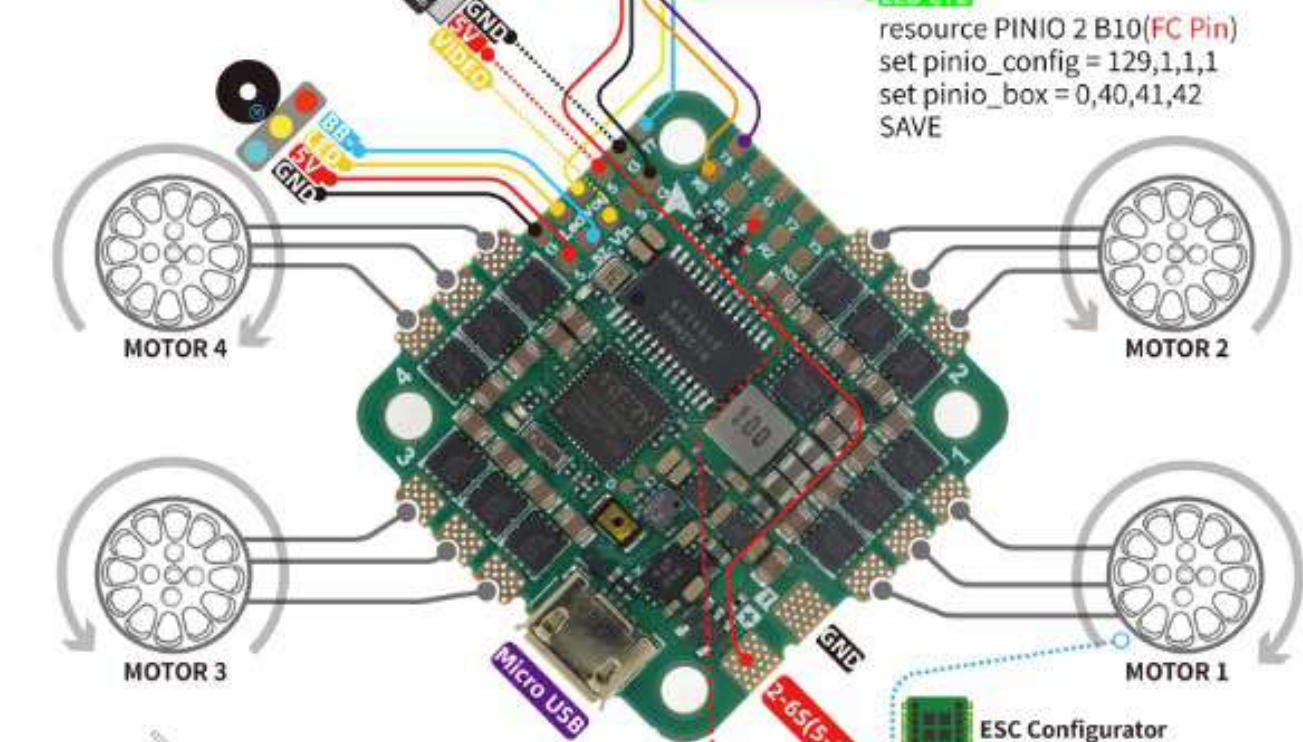
 Please note that the Air Unit end is connected strictly according to the wiring diagram, Otherwise, it will cause serious consequences such as burning the Air Unit end.

**⚠ Please note that the Air Unit end is connected strictly according to the wiring diagram, Otherwise, it will cause serious consequences such as burning the Air Unit end.**

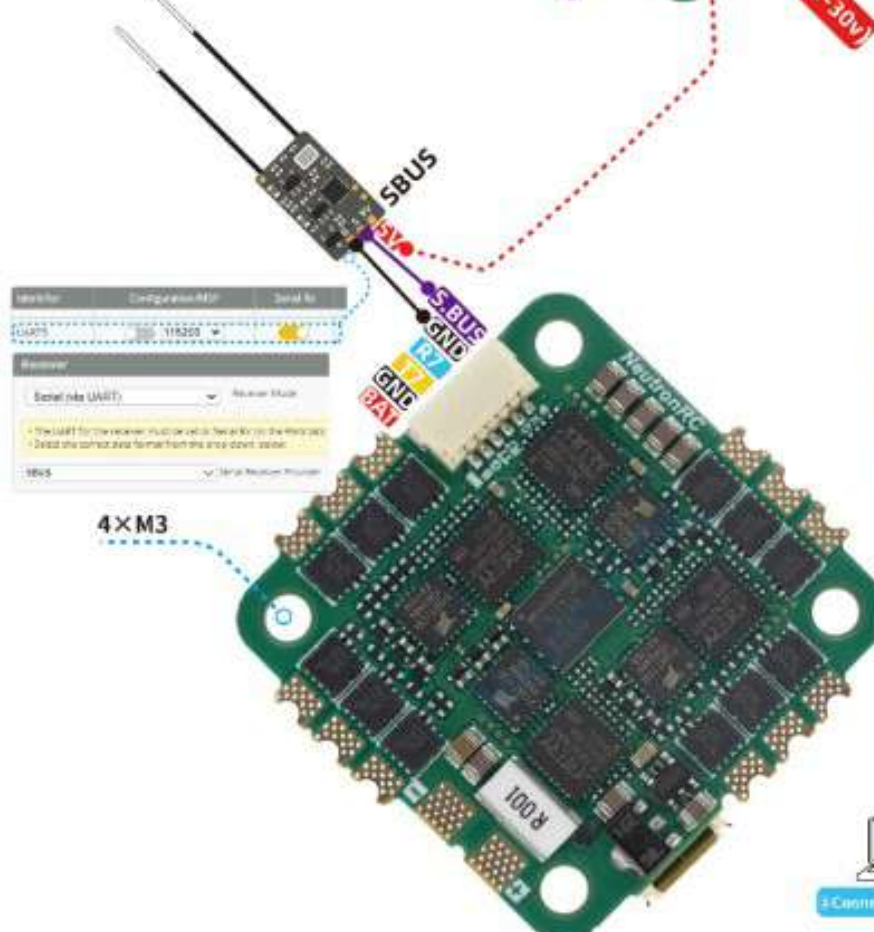
Under the combination of high-definition image transmission, complete the configuration of LED strip light by modifying the CLI (length does not exceed 600mm)

```
resource PINIO 2 C15
set pinio_config = 129,1,1,1
set pinio_box = 0,40,41,42
SAVE
```





```
resource PINIO 2 B10(FC Pin)
set pinio_config = 129,1,1,1
set pinio_box = 0,40,41,42
SAVE
```



AM32 to adjust the following settings:

Common Parameters

- Stowal StartUp
- Complementary Pin
- Enable PWM Frequency
- Back Rate Protection
- Stall Protection
- Timing Advance (deg)  **Highest angle of intake**
- Motor KV  **Close to the KV of the motor**
- Motor 1-4
- Stall Power
- Brake on stop  **Unchecked**

ESC parameter setting steps:

- Remove the paddles
- Connect the battery
- Connect to a computer
- Adjust the parameters
- Write Settings
- Write

**NOTE:**

If you have updated firmware, please refer to the following options for initial settings to ensure normal work

**Board and Sensor Alignment**

0 Roll Degrees      0 Pitch Degrees      -45 Yaw Degrees

First GYRO/ACCEL      CW 0° First GYRO

Default MAG Alignment

**Voltage Meter**

**Warning:** Values limited to 25.5V.

Battery

0.3 V

110 Scale

10 Divider Value

1 Multiplier Value

**Amperage Meter**

**Warning:** Values limited to 63.5A.

Battery

0.00 A

100 Scale [1/10th mV/A]

0 Offset [mA]

**Blackbox configuration**

Onboard Flash Blackbox logging device

1/1 (3200Hz) Blackbox logging rate

GYRO\_SCALED Blackbox debug mode

Save and reboot



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ATbetaflight



AM32

